

IN THE CLAIMS

Please cancel claims 3, 10-14, and 18 without prejudice or disclaimer.

Please amend claims 1, 6 and 15 and add new claims 22 - 33 as follows:

1. (Currently Amended) A heatsink comprising:

a) a column having a heat receiving face, wherein a cross section of said column has one shape selected from trapezoid, triangle, and a shape whose sectional width decreases as it extends away from said heat receiving face; and

b) a plurality of pillar-type protrusions provided on a at least one face other than the heat receiving face of said column in such a manner that they are parallel to ~~or at a predetermined angle against~~ the heat receiving face, said plurality of pillar-type protrusions being configured to form at least one uninterrupted fluid flow path between respective pillar-type protrusions in a direction in which the cross-sectional width of said column changes.

2. (Original) The heatsink of claim 1, wherein said pillar-type protrusions are formed by a plurality of first slits provided on a face other than the heat receiving face of said column parallel to the heat receiving face and a plurality of second slits provided transversely to the first slits.

3. (Cancelled)

4. (Currently Amended) The heatsink of claim 1 ~~[[2]]~~, wherein at least one of said pillar-type ~~protrusion~~ protrusions has protrusions and/or recesses on its surface.

5. (Currently Amended) The heatsink of claim 1 ~~[[2]]~~, wherein the heat receiving face ~~protrudes further outwards than said column~~ is spaced away from the nearest pillar-type protrusions.

6. (Currently Amended) The heatsink of claim 1 ~~[[2]]~~, wherein the vertical distance to the heat receiving face from the end of each of said pillar-type protrusions on a column side is shorter than that from the other end.

7. (Currently Amended) The heatsink of claim 6, wherein the height of each of said pillar-type ~~protrusion~~ protrusions does not go beyond the height of said column.

8. (Currently Amended) The heatsink of claim 6 ~~[[7]]~~, wherein at least one of said pillar-type ~~protrusion~~ protrusions has protrusions and/or recesses on its surface.

9. (Currently Amended) The heatsink of claim 6 ~~[[7]]~~, wherein the heat receiving face protrudes further outwards than said pillar-type protrusions ~~said column~~.

10.-14. (Cancelled)

15. (Currently Amended) A cooling apparatus comprising:

a heatsink comprising:

a) a column having a heat receiving face, wherein a cross section of said column has a shape whose sectional width decreases as it extends away from said heat receiving face; and

b) a plurality of pillar-type protrusions provided on a at least one face other than the heat receiving face of said column in such a manner that they are parallel to ~~or at a~~

~~predetermined angle against the heat receiving face, wherein at least one continuous row~~
of said pillar-type protrusions extend from said column at the same angle relative to said
column, each of said pillar-type protrusions in said at least one continuous row extending
from said column at the same vertical height; and

a cooling means mounted on said heatsink to provide a fluid flow between said plurality
of pillar-type protrusions in a direction transverse to said heat receiving face.

16. (Original) The cooling apparatus of claim 15, wherein said pillar-type protrusions are formed by a plurality of first slits provided on a face other than the heat receiving face of said column parallel to the heat receiving face and a plurality of second slits provided transversely to the first slits.

17. (Currently Amended) The cooling apparatus of claim 15 ~~[[2]], wherein the heat receiving face protrudes further outwards than said column~~ is spaced away from the nearest pillar-type protrusions.

18. (Cancelled)

19. (Original) The cooling apparatus of claim 15, wherein said cooling means is selected from one of and an air blowing means, a Peltier element, a heat pipe and a dipping in liquid.

20. (Original) The cooling apparatus of claim 19, wherein said air blowing means is disposed on the top face of said heatsink, facing the heat receiving face.

21. (Original) The cooling apparatus of claim 19, wherein said air blowing means is a fan which is mounted on the top face of said heatsink in such a manner that the fan sends wind to the heat receiving face.

22. (New) The heatsink of claim 1, wherein the at least one face of said column forms a curve extending from the bottom of said column to the top of said column.

23. (New) The heatsink of claim 1, wherein at least one continuous row of said pillar-type protrusions extend from said column, each of said pillar-type protrusions in said at least one continuous row extending from said column at the same vertical height.

24. (New) The heatsink of claim 1, further comprising a blower coupled to said column for blowing fluid in said direction in which the cross-sectional width of said column changes.

25. (New) The heatsink of claim 1, wherein said respective pillar-type protrusions face each other.

26. (New) The heatsink of claim 6, wherein a cross section of said column has one shape selected from trapezoid, triangle, and a shape whose sectional width decreases as it extends away from said heat receiving face.

27. (New) The cooling apparatus of claim 15, wherein at least one of said pillar-type protrusions have protrusions and/or recesses on its surface.

28. (New) A heatsink comprising:

a) a column having a heat receiving face, wherein a cross section of said column has one shape selected from trapezoid, triangle, and a shape whose sectional width decreases as it extends away from said heat receiving face; and

b) a plurality of protrusions provided on at least one face other than the heat receiving face of said column, said protrusions being separated from each other by a plurality of first gaps and a plurality of second gaps, said first gaps being disposed parallel to said heat receiving face and said second gaps being disposed transversely to said heat receiving face, wherein said second gaps are configured to form paths for up-down air flow.

29. (New) A cooling apparatus, comprising:

a heatsink comprising:

a column having a heat receiving face and at least one side face which is not parallel to said heat receiving face; and

a plurality of fins provided on said at least one side face in such a manner that they are parallel to the heat receiving face; and

a blower coupled to said heat sink for forcing fluid through fluid flow passages defined between said plurality of fins.

30. (New) A heatsink comprising:

a) a column having a heat receiving face, wherein a cross section of said column decreases at it extends away from said heat receiving face; and

b) a first plurality of pillar-type protrusions formed by a plurality of first cut slits formed on a face other than the heat receiving face of said column, and a plurality of cross slits formed

transversely to said first cut slits, said first plurality of pillar-type protrusions being formed in such a manner that they are parallel to the heat receiving face and defining a first fluid flow section;

c) a second plurality of pillar-type protrusions formed by a plurality of second cut slits formed on another face of said column, and a plurality of second cross slits formed transversely to said second cut slits, said second plurality of pillar-type protrusions being formed in such a manner that they are parallel to the heat receiving face and defining a second fluid flow section, wherein said first fluid flow section is connected to said second fluid flow section.

31. (New) The heatsink of claim 30, wherein the heat receiving face is spaced away from the nearest pillar-type protrusion.

32. (New) A heatsink comprising:

a) a column having a heat receiving face, wherein a cross section of said column has a shape whose sectional width decreases as it extends away from said heat receiving face; and

b) a plurality of pillar-type protrusions provided on at least one face other than the heat receiving face of said column in such a manner that they are parallel to the heat receiving face, said plurality of pillar-type protrusions being configured to form at least one uninterrupted fluid flow path between respective pillar-type protrusions in a direction in which the cross-sectional width of said column changes, said at least one uninterrupted fluid flow path extending along said at least one face from said heat receiving face to the end of said column having a decreased sectional width.

33. (New) A cooling apparatus comprising:

a heatsink comprising:

a) a column having a heat receiving face, wherein a cross section of said column has a shape whose sectional width decreases as it extends away from said heat receiving face;
and

b) a plurality of pillar-type protrusions provided on at least one face other than the heat receiving face of said column in such a manner that they are parallel to the heat receiving face; and

a cooling means mounted on said heatsink to provide a fluid flow between said plurality of pillar-type protrusions in a direction transverse to said heat receiving face.